Epitomes
Important Advances in Clinical Medicine

# General Surgery

*The Scientific Board of the California Medical Association presents the following inventory of items of progress in general surgery. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist busy practitioners, students, research workers or scholars to stay abreast of these items of progress in general surgery that have recently achieved a substantial degree of authoritative acceptance, whether in their own field of special interest or another.*

*The items of progress listed below were selected by the Advisory Panel to the Section on General Surgery of the California Medical Association and the summaries were prepared under its direction.*

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## New Advances in Pancreatic Transplantation

TRANSPLANTATION OF THE PANCREAS is an effective means of achieving an insulin-independent, euglycemic state in patients with type I diabetes mellitus and, thus, possibly preventing the late renal, vascular and cardiac complications.

Pancreas allotransplantation is being done with increasing frequency and greater success rates. About 1,000 cases have been reported to date, with more than 400 transplants carried out during the period 1983 through 1985, having a one-year success rate of 44%. Over the past two years, with improvements in surgical technique, one-year graft survival rates of 60% to 75% have been reported. With increasing experience, pancreas transplantation has become a safer procedure. At most major centers in the country, the one-year mortality rate for this operation (about 10%) matches that of renal transplants carried out in diabetic patients. While long-term graft survival results are not available, the longest functioning pancreatic allograft reported is eight years.

Various surgical techniques have been used, including transplantation of the entire gland (with or without the duodenum) or of the body and tail (segmental). The "Achilles heel" of the procedure has been management of the exocrine secretions. A diverse number of techniques has been devised, including polymer injection into the pancreatic duct, anastomosis of the duct to recipient bowel or anastomosis of the donor duodenum encompassing the pancreatic duct to recipient urinary bladder. The worldwide experience shows little difference in graft survival rates between these three techniques, while certain centers have yielded excellent results (74% 22-month graft survival) with the urinary drainage technique. This technique has been adopted in most centers in the country today.

Although the technical aspects of pancreas transplantation are difficult, the greatest obstacle to a successful outcome remains immunologic. Registry analysis accompanying various immunosuppressive therapy protocols shows that graft survival rates are highest (62% at one year for technically successful grafts) with the triple-therapy regimen (low-dose cyclosporine, azathioprine and prednisone). In addition, certain centers are using antilymphocytic globulin prophylactically to decrease the incidence of rejection.

A reliable indicator for the early diagnosis of pancreas graft rejection remains elusive. In patients who have had a simultaneous kidney and pancreas transplant, an elevated serum creatinine level precedes the development of hyperglycemia during a rejection episode of both organs. A distinct advantage of the urinary drainage technique is the ability to follow urinary amylase concentration as a monitor of pancreas graft function. A decrease in urinary amylase often precedes hyperglycemia as an indicator of rejection, and early treatment is initiated on this basis.

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## Alternatives to Total Mastectomy for Carcinoma of the Breast

MORE THAN 90 YEARS AGO Halsted introduced the radical mastectomy as the first rational approach to the surgical management of breast cancer. This procedure remained the most common operation for carcinoma of the breast until it was replaced by the modified radical mastectomy in which the